

SYSTEM AND METHOD FOR OPTIMIZING CONTROL PARAMETER
SETTINGS IN A CHAIN OF VIDEO PROCESSING ALGORITHMS

ABSTRACT OF THE DISCLOSURE

5 For use in a video processing system that is capable of processing a video stream using a chain of video processing algorithms, there is disclosed a system and method for optimally configuring control parameter settings of each video processing algorithm within the chain of video processing algorithms in order
10 to provide a high quality video image. The video processing system of the present invention comprises a chain of video processing algorithms, an optimization unit, and an objective quality metric unit. An output video stream from the chain of video processing units is fed back to the objective quality metric unit. The
15 objective quality metric unit calculates a fitness value and provides the fitness value to the optimization unit. The optimization unit uses the fitness value to configure the control parameter settings for the video processing algorithms. In one advantageous embodiment of the present invention, the optimization
20 unit uses a genetic algorithm in the optimization process. The video processing system iteratively converges toward control parameter configurations that produce a very high quality video image.